

Claim Rejection - 35 U.S.C. § 102

Claims 1-5, 15-16, 19, and 21-24 have been rejected by the Examiner as being anticipated by Foley (U.S. Patent No. 6,069,899).

As amended, the presently claimed invention is directed to a home network in which a first and second digital subscriber loop modems may provide, over a frequency spectrum, a network connection between customer premise devices when the frequency spectrum is under-utilized. The frequency spectrum that is used for the home area network is shared with DSL connections of the telephone company central office. Advantageously, network connections can be made between a number of customer premise devices within the customer premise by using the DSL equipment originally intended to provide communication outside of the customer premise.

Support for the amendments to the claims may be found, for example, in the specification at p. 5 line 16 to p. 6 line 6.

In contrast, Foley discloses a home area network that utilizes the frequency spectrum above that used for ADSL communications. (Foley, Col. 6, lines 32-62; Figures 4a, 4b). The frequency spectrum chosen in Foley ensures that signals of the home area network do not interfere with the signals exchanged with the central office. Foley does not disclose that the frequency spectrum that is used for the home area network is shared with the DSL connections of the telephone company central office. Additionally, Foley does not disclose that the frequency spectrum, when under-utilized, is used for the home networking session.

Also, the home area network in Foley requires use of a specialized NIC to establish and maintain a network connection. (Foley, Col. 8, lines 29-32; Figures 5a, 5b). The specialized NIC is designed for establishing and maintaining the home area network. The presently claimed invention, however, utilizes DSL equipment to provide the home networking session. Specialized equipment is not needed. Therefore, Foley does not disclose using the DSL equipment to facilitate the home networking session.

Applicants submit that Foley does not anticipate claims 1-5, 15-16, 19, and 21-24 of the pending application, as amended.

Claim Rejection - 35 U.S.C. § 103

Claims 6-14, 17-18, 20 and 25 have been rejected by the Examiner as being unpatentable over Foley in view of "Proposed Techniques for G.hs" by Matsushita Electric Industrial Co. Ltd. Of Japan ("Techniques").

In order to establish a prima facie case of obviousness, there must be some suggestion or motivation to modify a reference or to combine teachings from multiple references, a reasonable expectation of success; and a combination of the references which teach or suggest all the claim limitations. (MPEP § 2143).

Applicants submit that there is no suggestion or motivation to combine Foley with Techniques to render the presently claimed invention obvious. Foley discloses a home area network with communications that occupy a spectrum above ADSL communications. Foley calls the spectrum above the ADSL communications the home area network (HAN) band. (Foley, Col. 4, lines 15-34). And Foley rationalizes using the HAN band, rather than some other band, for the HAN so that the HAN does not interfere with communications by the central office. (Foley, Col. 7, lines 1-5). In contrast, Techniques discloses ADSL communications. The ADSL communications inherently occupy a spectrum defined for ADSL communications. There can be no suggestion or motivation to combine Foley with Techniques, when Foley expressly teaches away from a home area network that uses the spectrum defined for ADSL communications. (Foley, Col. 7, lines 1-5). Therefore, Applicants submit that claims 6-14, 17-18, 20, and 25, and claims 1, 21, and dependent claims, for that matter, cannot be rendered obvious.

Conclusion

Applicants submit that claims 1-25 are patentable over the prior art references cited by the Examiner. In light of the arguments set forth above, Applicants earnestly believe that the above-claims are allowable. Therefore, Applicants respectfully request that the Examiner expedite prosecution of this patent application to issuance.

Respectfully submitted,
**McDONNELL BOEHNEN
HULBERT & BERGHOFF**

Date: January 15, 2003

By: 

Neilesh R. Patel
Reg. No. 50,918

APPENDIX

Applicants submit a marked-up version of prior pending claims 1-14, 17-19, 21-22, and 25 with additions show by underlining and deletions shown by square brackets:

1. (Amended) A network system providing a home network between at least a first customer premise device and a second customer premise device within a customer premise, the system comprising:

a first digital subscriber loop modem in communication with the first customer premise device; and

a second digital subscriber loop modem in communication with the second customer premise device, the second and first digital subscriber loop modems in communication over a common wiring connection; and

the first and second digital subscriber loop modems provide, over a frequency spectrum, a network connection between the first and second [computer] customer premise devices within the customer premise, the first and second digital subscriber loop modems providing the network connection when the frequency spectrum is under-utilized;

wherein the home network accommodates DSL connections with [the] a telephone company central office during home networking sessions; and

wherein the DSL connections with the telephone company central office share the frequency spectrum used by the network connection between the first and second customer premise devices.

2. (Amended) The invention of claim 1 wherein the digital subscriber loop modems utilize a duplex communication channel between them.

3. (Amended) The invention of claim 1 wherein the network connection between the first and second digital subscriber loop modems utilize [the] a digital subscriber loop

frequency spectrum to communicate between the first and second [computer] customer premise devices.

4. (Amended) The invention of claim 3 wherein the spectrum used for home networking is contained within [the] a power spectral density mask used for the DSL connections.

5. (Amended) The invention of claim 3 wherein [the] a portion of the spectrum used for home networking that corresponds to a [the] DSL downstream spectrum is a function of [the] received power in that spectrum measured during previous DSL connections.

6. (Amended) The invention of claim 1 wherein [the] home networking initiation and connection signaling does not invoke a DSL connection attempt.

7. (Amended) The invention of claim 1 wherein [the] G.hs protocol is utilized to establish the network [communication] connection [session].

8. (Amended) The invention of claim 7 wherein [the] G.hs signaling would be performed over a set of tones specifically for home networking session establishment.

9. (Amended) The invention of claim 7 wherein one [consumer premise] digital subscriber loop modem initiates the [a home] network connection by signaling with [the] a central office DSL modem and other [consumer premise] digital subscriber loop modems decipher [the] communications but do not participate in [the] establishment of the network connection.

10. (Amended) The invention of claim 9 wherein [the] a flag signal comprises of a 'no common mode' selection in a mode select message followed by a non-standard information field pertaining to establishing [a home] the network[ing] connection.

11. (Amended) The invention of claim 1 wherein timing normally provided by a [the] central office modem is provided by [a consumer premise] the digital subscriber loop modems during [a] the home networking session.

12. (Amended) The invention of claim 1 wherein [the] a digital subscriber loop protocol comprises a G.lite protocol.

13. (Amended) The invention of claim 12 wherein a timing signal is provided in [the] absence of a downstream pilot.

14. (Amended) The invention of claim 13 wherein a DMT carrier [16] provides a [the] timing signal.

17. (Amended) The invention of claim 16 wherein [the] a central office modem addresses a network connection to a particular home network modem using G.hs.

18. (Amended) The invention of claim 1 wherein the first and second digital subscriber loop modems recognize [the] initiation signals for a digital subscriber loop connection from [the] a central office DSL modem.

19. (Amended) The invention of claim 1 wherein the first and second digital subscriber loop modems recognize [the] initiation signals for a digital subscriber loop connection from [the] a customer premise DSL modem.

21. (Amended) A local area network within a customer premises utilizing digital subscriber line equipment normally used for providing a digital subscriber line, comprising:

a plurality of customer premise digital subscriber line modems providing communication between computer devices;

a first digital subscriber line modem providing communications with a first computer device; and

a second digital subscriber line modem providing communications to a second computer device;

wherein the first and second digital subscriber line modems communicate to each other, over a frequency spectrum, to provide the local area network without requiring communications be routed through [the] a central office, the first and second digital subscriber line modems communicating to each other when the frequency spectrum is under-utilized; and

wherein DSL connections with the central office share the frequency spectrum used by the first and second digital subscriber line modems for the communications.

22. (Amended) The invention of claim 21 wherein the first and second digital subscriber line modems utilize [the] existing DSL frequency spectrum to communicate data over the local area network.

25. (Amended) A local area network providing a network connection within a customer premise, comprising:

a plurality of customer premise digital subscriber line modems providing communication between computer devices;

a first digital subscriber line modem providing communications with a first computer device; and

a second digital subscriber line modem providing communications to a second computer device;

wherein the network connection between the first and second digital subscriber loop modems utilize [the] a digital subscriber loop frequency spectrum, when under-utilized, to communicate between the first and second computer devices, the digital subscriber loop frequency spectrum being shared with DSL connections with a telephone company central office.